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EXAMINER

QURESHI, AFSAR M

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/884,553

Applicant(s)

WASTLHUBER ET AL.

Examiner

Afsar M. Qureshi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4,5,7,8,12-14,16-21,23-28,36,38-45,47,48 and 50-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4,5,7,8,12-14,16-21,23-28,36,38-45,47,48 and 50-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. This action is responsive to amendments received on 11/13/2006. Claims 1, 3, 6, 9-11, 15, 22, 29-35, 37, 46 and 49 remain cancelled in the Application. Claims 2, 4, 5, 7, 8, 12-14, 16-21, 23-28, 36, 38-45, 47, 48, 50-55 remain in the Application. Amendments to claims 2, 4, 5, 7, 12, 14, 16-18 and 23-25 are entered as requested.

Response to Arguments

2. Applicant's arguments filed on 11/13/2006 have been fully considered but they are not persuasive. Some of the arguments were addressed in the previous "Response to Arguments" section (5/23/2006, 10/28/2005).

Applicant repeats the argument that Rehm et al. (US 5,909,371) is silent whether the data during periods RZ1 and RZ2 regards transmitted up-to-date position data. However, the Examiner contends, as in the previous response dated 8/10/2006, that the data between RZ1 and RZ2 is an 'updated' data, as is evident from col. 3, lines 45-61, and one of ordinary skill in the art can realize that it can be regarded as claimed "up-to-date position data".

Applicant further maintains the argument that the word "*a/ways*" was omitted in the rejection of claim 1 (now in claim 22). As responded to in the previous "Response to Argument", 8/10/2006, that it is evident from col. 2, lines 42-53 (Rehm), the not time-critical data is only interrupted to pass critical data and then *a/ways* resumes the pending other non-time-critical computer processes immediately after.

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In reference to claims 24 and 26, Applicant argued that Lennartsson does not disclose nor suggest the *particular position request commands*. Both claims 24 and 26 are concerned with *first position request command* and *second position request command* and *levels of priority data*. Lennartsson teaches 'the ability of assigning different levels of priority to a message, and messages are processed in the order of assigned priority (col. 7, lines 1-24). Lennartsson further teaches issuing the assigned priority levels position request command (see col. 16, lines 67 through col. 17, lines 1-45).

On page 15, of the Argument/Remarks, Applicant argued that 'none of the cited art disclose or suggest the recited *interrupting and transmitting*'. However, all cited references are concerned with interrupting the process so that the time-critical computing processes can be processed immediately, for instance, Rehm at col. 1, lines 39-45 or col. 2, lines 41-46 and similarly, Hagl at col. 5, lines 61 through col. 6, lines 1-10. Same arguments were presented in reference to claims 36, 38-45, 47, 48 and 50-55 (and the remaining claims). The Examiner maintains that all the limitations are taught by the cited references taken alone and in combination.

The rational to modify or combine the prior art does not have to be expressly stated in the prior art; the rational may be, expressly or impliedly, revealed from knowledge generally available to one of ordinary skill in the art, established scientific principles or legal precedent established by prior case laws. *In re Fine*, 837 F.2d 1071, 5USPQ2d1596 (Fed. Cir. 1988), and, *Ex Parte Levengood*, 28 USPDQ 2d 1300. All

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those variations in the alternative structure that fall within the scope of this invention can readily be conceived by one of skill in the art.

Claim Objections

3. Claim 13 is objected to because of the following informalities:

Claim 13 is incorrectly dependent on rejected claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4, 5, 7, 8, 16-21, 23, 24, 26, 28, 36, 38-45, 47, 48, 50-55 rejected under 35 U.S.C. 103(a) as being unpatentable over Hagl et al. ('Hagl'), US 5,687,103 in view of Rehm et al. ('Rehm'), US 5,909,371 and in further view of Kent Lennartsson (US 5,371,859)

Regarding claims 2, 23, 24, 26, 36 and 47

Hagl discloses a method or device for serial data transmission between a position measuring system and a processing unit (See Fig. 1, blocks 100 and 400, RZ1-

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2, R12, R13, R11 processors), comprising: transmitting position data and further data from said position measuring system to said processing unit in serial form as digital data words (*Measuring device transmit the angle position as a binary data word to the processing unit. See column 3, lines 3-6*); transmitting up-to-date position data between said position measuring system and said processing unit upon transmission of a position request command (commands from the processing units are sent to the position measuring device to retrieve current data. Status command A is used in the example of this reference. See column. 3, lines 40-54 and 58-64).

Hagl, however, fails to disclose always transmitting further data, whose processing is *not time-critical*, immediately following said transmitting said up-to-date position data.

Rehm, in the same field of endeavor, discloses the process of data, whose processing is not time-critical, immediately following said transmitting the up-to-date position data (Figure 2. RZ1 and RZ2 are time critical data. Non-time critical data of FZI always immediately follow time critical data in figure 2).

As to claims 23, 24 and 26, Hagl and Rehm, in combination, fail to specifically disclose that different position request commands can be assigned with different processing priorities.

However, Lennartsson teaches the ability of assigning different levels of priority to a message and messages are processed in the order of assigned priority levels (See column 7, lines 10-24).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hagl and Rehm method to process non-time-critical, immediately following transmitting said up-to-date position data or that of different priority levels to position request commands, the motivation being that by transmitting non-time-critical immediately following the transmitting said up-to-date position data, bandwidth would not be wasted between time critical transmission between the 2 devices.

Regarding claim 4

Hagl discloses the method, wherein said further data is transmitted between the position measuring system and the processing unit (See Fig. 1, blocks 100 and 400).

Rehm discloses the method, in accordance with claim 1, further comprising transmitting a position request command for requesting said up-to-date position data (Column1, lines 16-24. Figure 2. RZ1 and RZ2 are time critical data) and always transmitting immediately following said position request command, further data (Non-time critical data of FZI immediately follow time critical data in figure 2) whose processing is not time-critical.

Regarding claims 5 and 7

Hagl discloses that said up-to-date position data and said position request command is transmitted in the form of digital data words of a pre-determined word length, or as data packets comprising digital data words (Sampling signals are amplified and converted into digital signals for a binary word. See column 3, lines 3-12).

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Regarding claim 8

Hagl discloses that additional non-time-critical data comprises additional data and additional data commands (beside the position data, there is also other data request commands and other corresponding data to these data requests like status commands and their responses to commands A-F. See column 3, lines 59-67; See column 4, lines 1-42).

Regarding claim 16

Hagl discloses the method wherein all data transmitted between the position measuring system and the processing unit is transmitted over a common data channel (See column 2, lines 23-24).

Regarding claim 17

Hagl discloses the method wherein data transmitted from said position measuring system to said processing unit are transmitted via a first data channel, and said data transmitted from said processing unit to said position measuring system are transmitted via second data channel (See Fig. 1, lines 500).

Regarding claims 18 and 19

The disclosed by Hagl further comprising storing said non-time-critical data (See Fig. 1, block 900; See column 4, lines 1-2).

Regarding claim 20

Hagl discloses the method that further comprises the steps of storing non-time-critical data transmitted by said position measuring system in a second memory unit of

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said processing unit (status command D can be used to send saved parameters at the processing unit to the position measurement device (see column 4, lines 33-35).

Regarding claim 21

Hagl discloses the method, further comprising transmitting memory unit status data, which contain at least information regarding an actual memory status of a memory unit (using command B, one can read or write data into memory. See column 4, lines 1-21).

Regarding claim 28

Hagl discloses the method including steps wherein with said transmitting of either of said digital data words or data packets, a data word identification is transmitted, which unequivocally identifies a beginning and type of digital data word or data packet (start bit is used to identify the beginning of the word. Different types of parameters were also described. See column 4, lines 36-37, 55; See column 5, lines 25-26; See column 6, lines 53-67).

Regarding claims 38 and 50

Rehm discloses the method in accordance with claim 36, wherein parameters of said position measuring system are transmitted via said non time-critical signals (Column 1, lines 25-30).

Regarding claims 39 and 51

Rehm discloses the method, in accordance with claim 36, wherein measured temperature values are transmitted via said non-time-critical signals (Column 1, lines 28.

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Non-critical signals can be many things like indicated by line 28 of column 1. This can be understood as temperature reading).

Regarding claim 40 and 52

Rehm disclosed the method in accordance with claim 36, wherein diagnostic data of said position measuring system are transmitted via said non-time-critical signals (Column 1, lines 28. Non-critical signals can be many things like indicated by line 28 of column 1).

Regarding claims 41 and 53

Rehm discloses the method in accordance with claim 36, wherein assignment information is transmitted or processed with each of said non-time-critical signals (Column 1, lines 28. Non-critical signals can be many things like indicated by line 28 of column 1).

Regarding claim 42

Rehm disclosed the method in accordance with claim 36, further comprising requesting, via said processing unit, transmission or process of said non-time-critical signals from said position measuring system (Column 1, lines 16-30).

Regarding claim 43 and 54,

Hagl and Rehm disclosed a method or device for serial data transmission between a position measuring system and a processing unit as described in claim 1 above.

Regarding claims 43 and 54

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Hagl discloses data transmitted as a binary data word between the position-measuring device and the processing unit (See column .3, lines 3-6).

Regarding claim 44

Rehm disclosed the method in accordance with claim 4, wherein data transmitted from said position measuring system to said processing unit are transmitted via a first data channel (Figure 1. Column 1, lines 50-55), and said data transmitted from said processing unit to said position measuring system are transmitted via a second data channel (Figure 1. Column 1, lines 50=55).

Regarding claim 45

Rehm disclosed the method in accordance with claim 36, wherein up-to-date position data always occurs, between said non-time critical signals (Figure 2. RZ1 and RZ2 are time critical data, processed between non-time critical data of FZI as indicated in figure 2).

Regarding claim 48

Rehm disclosed the system in accordance with claim 47, further comprising:
A first data channel in communication with said position measuring system and said processing unit and transmitting data from said position measuring system to said processing unit (Column 1, lines 16-25; Column 3, lines 50-55); and a second data channel in communication with said position-measuring system and said processing unit and transmitting data from said processing unit to said position-measuring system (Column 1, lines 16-25; Column 3, 'lines 50-55).

Regarding claim 55

Rehm disclosed the method in accordance with claim 36, wherein said non-time-critical signals are chronologically distributed over several blocks (Figure 2, FZI blocks).

5. Claims 12-14, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagl in view of Rehm and Lennartsson, and in further view of Kurten (DE 4005087 CI).

Regarding claims 12-14 In addition to limitations discussed in the rejection of claims 2, 23,... above, the combined invention of Hagl, Lennartsson and Rehm disclose a method or device for serial data transmission between a position measuring system and a processing unit as described in the rejection of claim 1 above.

Hagl, Lennartsson and Rehm, however, fail to disclose the ability of interrupting the transmission of non-time-critical data upon detecting a position data request command.

Kurten teaches the ability of immediately interrupting processing a current process in responding to a more priority processing command and continuing with the current process once the more priority or urgent processing command is completed at a later time (See column 2, lines 38-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the interrupting feature as taught by Kurten into the combined invention by Hagl and Rehm. Thus, by incorporating the interrupting feature,

a more urgent data can be responded immediately for parameters that are time sensitive on a priority basis and continuing with the non-time sensitive at a later time.

Regarding claims 25 and 27

Hagl and Rehm disclose a method or device for serial data transmission between a position measuring system and a processing unit as described in the rejection of claim 1 above. Hagl and Rehm, however, fail to disclose the ability of interrupting the transmission of non-time-critical data upon detecting a position data request command and fail to disclose different position request commands can be assigned with different processing priorities. Kurten teaches the ability of immediately interrupting processing a current process in responding to a more priority processing command and continuing with the current process once the more priority or urgent processing command is completed at a later time (See column 2: lines 38-42). Kurten is silent about assigning different levels of priority to a message that are being processed in the order of assigned priority levels.

However, Lennartsson teaches the ability of assigning different levels of priority to a message and messages are processed in the order of assigned priority levels (See column 7, lines 10-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the interrupting feature and to assign different priority levels in order to position request commands as taught by Lennartsson. It would have motivated one skilled in the art, to be able to stop the current process and proceed with a more urgent and more priority request for a more time sensitive parameter.


6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M. Qureshi whose telephone number is (571) 272 3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Field Lynn can be reached on (571) 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


AFSAR QURESHI
PRIMARY EXAMINER
1/22/2007